

I claim:

1. In a communication receiver, a method for adjusting the gain of an IF amplifier, said method comprising the steps of:

5 monitoring a gain adjustment of an RF amplifier in said communication receiver;  
and

adjusting said IF gain value by an amount approximately opposite to said RF gain value.

10 2. The method according to claim 1, wherein said communication receiver is an OFDM communication receiver.

15 3. The method according to claim 1, wherein said communication receiver is a DMT communication receiver.

20 4. The method according to claim 1, further comprising the step of adjusting said IF gain value based on at least one signal energy measurement performed before or after a fast Fourier transform (FFT) stage in said receiver in order to maintain a desired set point if there is no RF gain adjustment.

25 5. The method according to claim 4, wherein said signal energy measurement is a sum over  $n$  values of the squares of the real and imaginary portions of signal samples, where  $n$  corresponds to an inverse of an update rate (UR).

30 6. The method according to claim 4, wherein said signal energy measurement is performed before said FFT stage and wherein said method further comprises the step of adjusting said IF gain value in stepped increments if a difference between said signal energy measurement and a corresponding pre-FFT threshold are within a predefined tolerance.

7. The method according to claim 4, wherein said signal energy measurements are performed before and after said FFT stage and wherein said method further comprises the

step of adjusting said IF gain value by an amount equal to a minimum of a difference between a pre-signal energy measurement and a corresponding pre-FFT threshold and a difference between a post-signal energy measurement and a corresponding post-FFT threshold multiplied by a constant.

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8. The method according to claim 4, wherein a threshold for said signal energy measurement is established to maximize a number of bits representing each sample.

9. The method according to claim 4, wherein a threshold for said signal energy measurement is established to prevent clipping.

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10. In a communication receiver, a method for adjusting the gain of an IF amplifier, said method comprising the steps of:

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monitoring signal energy measurements before and after a fast Fourier transform (FFT) stage in said receiver in order to maintain a corresponding set point;

establishing corresponding thresholds for each of said signal energy measurements; and

adjusting said IF gain value by an amount based on said signal energy measurements before and after said FFT stage and said corresponding thresholds.

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11. The method according to claim 10, wherein said communication receiver is an OFDM communication receiver.

12. The method according to claim 10, wherein said communication receiver is a DMT communication receiver.

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13. The method according to claim 10, wherein said signal energy measurements are a sum over  $n$  values of the squares of the real and imaginary portions of signal samples, where  $n$  corresponds to an inverse of an update rate (UR).

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14. The method according to claim 10, further comprising the step of adjusting said IF gain value in stepped increments if a difference between said signal energy measurement performed before said FFT stage and a corresponding pre-FFT threshold are within a predefined tolerance.

5 15. The method according to claim 10, wherein said thresholds are established to maximize a number of bits representing each sample.

10 16. The method according to claim 10, wherein said thresholds are established to prevent clipping.

15 17. The method according to claim 10, wherein said adjusting step further comprises the step of selecting a minimum of a difference between said signal energy measurement before said FFT stage and said corresponding threshold and a difference between said signal energy measurement after said FFT stage and said corresponding threshold.